State of California

Business, Transportation and Housing Agency

Memorandum

To: MR. CARL SAVAGE
Department of Transportation
District 11
Design Branch, MS 35

Attention: Mr. Carl Savage

Date: August 30, 2001

File: 11-SD-56-KP 3.3/10.5
11-172821

Caltrans Metric

Sound Barrier Wall #2

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design - South
Structures Foundation South Branch

Subject: Foundation Recommendations

A request for foundation study and foundation recommendations was made by District 11 Design Branch, January 5, 2001, for the proposed Sound Barrier Wall #2. Office of Geotechnical Design – South, Structure Foundation - South Branch completed a foundation investigation and recommendation for the proposed wall. The foundation study consisted of a field investigation. The field investigation involved a site review and three augered exploratory borings. All elevations referenced in this memo and shown on the Log of Test Boring (LOTB) sheets are in meters, and are referenced to the 1988 NAVD Datum. The LOTB sheets will be forwarded to your office when completed.

Project / Site Description

The proposed project site is located in Carmel Valley, north of San Diego, State Route 56, west of the proposed Carmel Valley Road UC, Bridge # 57-1077R/L on the north side of State Route 56. The proposed sound barrier wall starts at station 48+08.5 of the Route 56 'A' line and ends at station 49+82.3, and varies from 37.4 m to 54.6 m left of the 'A' line.

Geology

The foundation study revealed the soils at the project site consists of fill over quaternary alluvial deposits. The fill ranges in depth from 0.5 to 7 m deep, and consists of medium dense sand with silt and clay. The alluvial deposits consist of discontinuous beds and lenses of medium dense to very dense, poorly graded and well graded sand with gravel, silt, and clay. Boring B-00-3 shows siltstone and sandstone near the bottom of the boring at elevations 46.0 m and 42.9 m,

respectively. The siltstone is soft, moderately weathered and poorly cemented. The sandstone is moderately soft, moderately weathered and poorly cemented. For site specific soil information, please refer to the LOTBs. Caving should not be a problem with the silt and clay with sand soils.

During the field investigation of 2001, ground water was not encountered in the exploratory borings. It is not anticipated that groundwater will be encountered during construction however, surface flows may occur due to seasonal rain run off.

Corrosion

The Materials Engineering and Testing Services, Testing and Technology Branch, has not performed corrosion tests on soil samples from the field investigation of 2001. However, corrosion tests from nearby projects indicate that soils at the site are not considered corrosive. Normal design techniques and construction can be used.

Foundation Recommendations

The following foundation recommendations are for the proposed Sound Barrier Wall #2 as shown on the site plans dated 11/15/2000 and the undated profile plans. The proposed structure is a combination of Sound wall and Barrier. The location and type of wall is shown in Table 1 below.

Table 1
Location and Type of Wall

Wall Type	Route 56 'A' line Stationing	"RW-2" Wall LOL Stationing
Sound Barrier Wall	37.4 m Lt. of Sta. 48+08.5 to 54.6 m Lt of Sta. 49+82.3	C/L of Sta. 20+00.0 to C/L of Sta. 21+77.9

Cast-in-drilled-hole (CIDH) piles are recommended for the support of the proposed Sound Barrier Walls as shown in the Bridge Standard Details Sheets (4/2000), File numbers XS 3-57.1, XS 3-57.2, and XS 3-57.3. The finished grade of the proposed wall plans show level ground facing outside the state right of way and a sloping ground surface facing inside the state right of way indicating G-2 ground condition, the designer should use Case 2 for pile lengths. Some sections of the proposed wall will be placed in minor cut sections and the rest of the proposed wall will be placed on 0.5-6 m of embankment fill.

Construction Considerations

1. Embankment fills at the wall sites should be placed at 95% relative as per Standard Specifications (July 1999), Section 19-5.03.

2. Care should be taken to avoid placing large rocks or other materials into the embankment fill which would impede drilling of the pile borings.

The recommendations contained in this report are based on specific project information regarding soundwall heights, retaining wall heights, final grade and wall locations that have been

provided to Office of Geotechnical Design - South, Structure Foundation – South Branch. If any conceptual changes are made during final project design, Office of Geotechnical Design, Structure Foundation – South Branch, should review those changes to determine if the foundation recommendations contained in this report are still applicable.

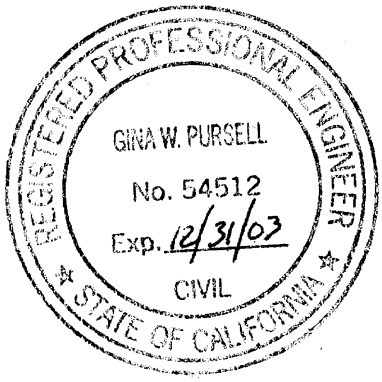
Any questions regarding the above recommendations should be directed to Gina Pursell, (916) 227-1362 (CALNET 498-1362), or Mark DeSalvatore, (916) 227-7056 (CALNET 498-7056), of Office of Geotechnical Design - South, Structure Foundations – South Branch.

Report by: Date: 9/17/01

GINA W. PURSELL, R.C.E. # 54512
Associate Materials & Research Engineer
Office of Geotechnical Design - South
Structure Foundations – South Branch
Branch

Supervised by: Date: 9/14/01

MARK DeSALVATORE, R.C.E., #39499
Senior Materials & Research Engineer
Office of Geotechnical Design - South
Structure Foundations – South



c: R.E. Pending File
DBarlow - Specs & Estimates
TRuckman - Specs Dev
OAlcantara – Project Development
LHuynh - PCE
APadilla– Material Investigations (D11)
JChai - OGDS
Geology – North
Geology - South
RGES - 30